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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:) Atty. Dkt. No. 03.09.17.1
Edward E. Miller)
) Art Unit: 1713
Serial No. 10/789,207) Examiner: Robert D. Harlan
Filing Date: 2/27/2004)
Title:) Duncan, Oklahoma 73534
)
WATER CONTROL IN A)
SUBSURFACE FORMATION) Date: October 25, 2006

RESPONSE TO OFFICE ACTION

Commissioner For Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

This is in response to the Office Action mailed September 25, 2006.

THE INVENTION

This invention provides a water soluble polymer composition which is a copolymer comprised of random repeat units of an acrylic acid compound and random repeat units of a divalent metal salt of the acrylic acid compound. This invention also provides a water soluble polymer composition which is a terpolymer comprised of random repeat units of an acrylic acid compound, random repeat units of a divalent metal salt of the acrylic acid compound, and random repeat units of a monovalent metal salt of the acrylic acid compound. In one embodiment, the acrylic acid compound is acrylic acid, the divalent metal salt of the acrylic acid compound is magnesium acrylate and the monovalent metal salt of the acrylic acid compound is sodium acrylate. (Disclosure, page 4, lines 72-84)

The water soluble polymer composition of this invention can be made by combining a quantity of divalent metal compound, such as magnesium hydroxide, with an acrylic acid